Feature 2 Main Mechanism

The mechanism gentle to the earth realizes cleaner exhaust emission while ensuring a high output.

With its greatly improved engine performance gentle to the global environment and for comfortable working, the DYNA contributes greatly to enhancing business productivity.

Adoption of Newly Developed 14B, 15B-FTE, W04D-J, S05C-B, S05C-TA, S05C-TB Engines.

Outstanding Features of New Engines

▶ 14B engine ◀

- The 14B has a reputation for high performance and durability.
- The basic construction and operation of these engines remain the same as in the previous model, their vibration and sound resistance and serviceability have been improved.

▶ 15B-FTE engine ◀

- **Superior fuel economy and exhaust gas reduction performance**
  Use of EGR and electronic control
  Use of an intake cooling type EGR valve
  Optimized shape of the pistons and combustion chamber
  Use of a high-pressure, electronic control injection pump
- **Improved reliability**
  Higher rigidity through the increased diameter of the crankshaft pins and journals
  Use of high-pressure, cast-aluminum alloy pistons and piston rings with an optimized material, shape, and surface treatment
- **High pressure, high torque**
  Use of direct injection to ensure the proper combustion performance of the fuel injection system
  Optimized injection system through the adoption of electronic control in the fuel injection system and the use of an electronically controlled, high-pressure injection pump
- **Low noise and vibration**
  Increased rigidity of the cylinder block
  Use of an injection pump cover

▶ W04D-J and S05C-B engines ◀

- **Improved fuel consumption and exhaust gas cleaning function.**
  Optimized combustion chamber shape.
  Higher fuel injection pump pressure.
  Optimized shape of intake manifold, pipes, and air intake ports.
  Optimized valve timing.
- **Improved reliability.**
  Integrated cylinder head.
  Optimized cylinder block cooling performance.
  Use of heat-resistant aluminum alloy for the piston, optimized overall length and thickness of the piston pin in accordance with the higher output.
  Increased crankshaft rigidity.

● **High output, high torque.**
Improved combustion efficiency in the high-speed range due to optimized intake manifold and air intake throttle mechanism.
Optimized injection system by use of a new injection nozzle.

▶ S05C-TA engine ◀

In addition to S05C-B engine

● **Adopted high efficiency turbocharger and intercooler.**
High output and high torque.

▶ S05C-TB engine ◀

In addition to above,

● **Adopted electronic controlled Common-rail type fuel injection system.**
Improved in fuel consumption, Improved in start drive-ability, noise reduction at the idling. Realized cleaner exhaust emission (in terms of black smoke and Nox)

● **Adopted high efficiency turbocharger and intercooler.**
High output and high torque .

▶ Engine Specifications ◀

Engine Type	14B	15B-FTE
Displacement cm^3 (cu.in.)	3660 (223.3)	4104 (250.4)
No. of Cyls. & Arrangement	4-Cylinder, In-Line	←
Bore × Stroke mm (in.)	102.0 × 112.0 (4.02 × 4.41)	108 × 112 (4.25 × 4.41)
Injection Pump Type	Distribution type	In-line type
Aspiration	Natural	Turbo Intercooler

Engine Type	W04D-J	S05C-B	S05C-TA	S05C-TB
Displacement cm^3 (cu.in.)	4009 (244.6)	4613 (281.5)	←	←
No. of Cyls. & Arrangement	4-Cylinder, In-Line	←	←	←
Bore × Stroke mm (in.)	104 × 118 (4.09 × 4.65)	114 × 113 (4.49 × 4.45)	←	←
Injection Pump Type	In-line type	←	←	Common-rail type
Aspiration	Natural	←	Turbo Intercooler	←